

**BOSTON COLLEGE**  
Department of Economics

**EC 151.03**  
Statistics  
Fall, 2002

Instructor: Andrew Samuel  
Carney 33 C  
Phone: 617-552-8707  
Email: [andrew.samuel@bc.edu](mailto:andrew.samuel@bc.edu)  
Office Hours: M 2-3, W 11-12

**Text:** Anderson, Sweeney, and Williams, Essentials of Statistics for Business and Economics, South-Western College Publishing Co., Third edition.

**Course Organization and Expectations:**

This is an introductory course in statistics. The primary objective of the course is to familiarize you with the basics of probability and sampling theory, and to enable you to learn to apply these concepts in business and economics.

The course meets for three lectures each week. You are expected to read the text carefully before each class, attend all classes, work through the problem sets, and come with questions to class. Problem sets will be handed out in class one week before they are due and are to be turned in on the date due in class. You may work together on the problem sets; in fact, I encourage you to do so, but you are NOT to simply copy the work from someone else. You are to work through your own answers before turning them in.

There will be two mid-terms and a final exam. Your work on exams is to be entirely your own. Be sure that you are familiar with the section on “Academic Integrity” which can be found online at:

[http://www.bc.edu/bc\\_org/avp/cas/polsc/plagiarism.htm](http://www.bc.edu/bc_org/avp/cas/polsc/plagiarism.htm)

There will be no make-up exams. If you miss an exam for a good reason, let me know immediately and you will be graded on the other exam and the final. If you do poorly on one mid-term but consistently well on the other one and the final, the one poor exam will be discounted (but not completely ignored).

**Course Requirements:** Two midterm exams (30% each), on Oct. 2 and Nov 4.  
Final Exam (40%), on Dec 18th.  
Problem sets (used as additional evidence for up to one notch on your final grade: B+ to A-, B to B+ etc.)

<b>Date</b>	<b>Topics</b>	<b>Assignment</b>
Sept 4	Introduction Data, Description, & Inference Frequency Distributions & Histograms	Text, Ch. 1 and 2
Sept 6	Central Tendency: Mean, Median, Mode	Text, Ch. 3
Sept 9	Dispersion (or spread): Range, Variance, Standard Deviation	Text, Ch. 3
Sept 11	Introduction to Probability Experiments, Counting Rules, Events and Probabilities	Text, Ch. 4
Sept 13	The Sample Space Probability: Basic Axioms Classical, Relative Frequency, and Subjective Interpretations	Text, Ch 4
Sept 16	Simple Events and Compound Events The Addition Rule Conditional Probability and Independence The Multiplication Rule	Text, Ch 4
Sept 18	The Multiplication Rule Bayes Theorem	Text, Ch 4
Sept 20	Random Variables Discrete Probability Distributions	Text, Ch 5
Sept 23	Expected Value and Variance	Text, Ch 5
Sept 25	Binomial Distribution	Text, Ch 5
Sept 27	Poisson Distribution	Text, Ch 5
Sept 30	Summary and Review	
Oct 2	First Exam	

Oct 4	Continuous Distributions The Uniform Distribution	Text, Ch 6
Oct 7	The Normal Distribution Using the Normal Distributions	Text, Ch 6
Oct 9	Standardizing Distributions Approximating Binomial Probabilities	Text, Ch 6
Oct 11	Sampling Sampling and Populations Simple Random Sampling	Text, Ch. 7
Oct 16	Point Estimation Introduction to Sampling Distributions Sampling Distributions: Mean and Variance	Text, Ch 7
Oct 18	Central Limit Theorem	Text, Ch. 7
Oct 21	Sample Distribution of Proportions	Text, Ch. 7
Oct 23	Sampling Methods	
Oct 25	Interval Estimates for Means: Large Sample	Text, Ch 8
Oct 28	Interval Estimates for Means: Small Sample	Text, Ch 8
Oct 30	Confidence Intervals for the Proportion	Text, Ch 8
Nov 1	Summary and Review	
Nov 4	Second Exam	
Nov 6	The Logic of Hypotheses Testing: Developing the Null and Alternative Hypothesis	Text, Ch 9
Nov 8	No Class	

Nov 11 Ch 9	Type I, Type II Errors	Text,
Nov 13	Large Sample Tests	Text, Ch 9
Nov 15	Small Sample Tests	Text, Ch 9
Nov 18	Tests for a Population Proportion	Text, Ch 9
Nov. 20	Regression	Text, Ch 12
Nov. 22	Regression Fitting a line to the Data	Text, Ch 12
Nov. 25	Ordinary Least Squares	Text, Ch 12
Nov 29	Thanksgiving	Text, Ch 12
Dec 1	The Regression Model Estimating the Parameters	
Dec 4	Standard Errors The "t" statistics R-Squared and Adjusted R-Squared	Text, Ch 12
Dec 6	Predicting Y at a given level of X Prediction Intervals	Text, Ch 12
Dec 9	Multiple Regression The General Linear Model	Text, Ch 13
Dec 11	Dummy Variables Confidence Intervals t - Statistics	Text, Ch 13
Dec 13	Exam Review	
Dec 18	Final Exam	